in such technology components as hardware and process design/engineering, biomass separation and drying, as well as in-depth insights into many other related technical problems (managing weed species, maintenance continuous year around cultivation). Sources describing cyanofarming include: Microalgae of Economic Potential by A. Richmond in CRC Handbook of Microalgal Mass Culture, 1986, CRC Press, Boca Raton, Florida;Microalgae: Organic Factories of the Future. Cyanotech Corp. 1998. and other information from Cyanotech; Spirulina: Environmental Advantages; Earthrise Farms, California; Jeeji Bai N (Poster Abstract, 1995) "Decentralized Arthrospira ("Spirulina") culture facility for income generation in rural areas" 1992 data. Shrii A.M.M Mudragappa Chettiar Research Centre, Tharamani, Madras 600113, India; Alkalophilic cyanobacteria: digests of Curds et al, 1986 and Finlay et al, 1987; Spirulina - Production and Potential by Ripley D. Fox 1996. Pub. by Editions Edisud, La Calade, R.N.7 !3090 Aix-en-provice, France.--

IN THE CLAIMS:

Please cancel claims 19 and 20. Please insert claims 27-37 as follows.

27. A method for obtaining a polynucleotide comprising a sequence encoding a protein having Rubisco carboxylation activity, the method comprising:

recombining a plurality of parental polynucleotide species encoding at least one protein having Rubisco carboxylation activity under conditions suitable for sequence shuffling to form a resultant library of sequence-shuffled polynucleotides;

transferring said library into a plurality of host cells, thereby forming a library of transformants wherein sequence-shuffled Rubisco polynucleotides are expressed; and

identifying at least one transformant from the library that expresses a protein having a Rubisco carboxylation activity that is significantly enhanced relative to the Rubisco carboxylation activity of proteins encoded by the plurality of parental

polynucleotide species, wherein the identified transformant contains a polynucleotide comprising a sequence encoding the protein having an enhanced Rubisco carboxylation activity, thereby obtaining a polynucleotide comprising a sequence encoding the protein having an enhanced Rubisco carboxylation activity.

28. The polynucleotide of claim 27, wherein the encoded protein having an enhanced Rubisco carboxylation activity has a higher carboxylation specificity factor than proteins encoded by the plurality of polynucleotide species.

29. The polynucleotide of claim 27, wherein the encoded protein having an enhanced Rubisco carboxylation activity has a velocity of carboxylation that is greater than that of proteins encoded by the plurality of polynucleotide species.

30. The polynucleotide of claim 27, wherein the encoded protein having an enhanced Rubisco carboxylation activity has a velocity of oxygenation that is less than that of proteins encoded by the plurality of polynucleotide species.

31. The polynucleotide of claim 27, wherein the encoded protein having an enhanced Rubisco carboxylation activity has a Km for CO_2 that is less than that of proteins encoded by the plurality of polynucleotide species.

32. The polynucleotide of claim 27, wherein the encoded protein having an enhanced Rubisco carboxylation activity has a Km for O_2 that is greater than that of proteins encoded by the plurality of polynucleotide species.

33. The polynucleotide of claim 27, wherein the plurality of parental polynucleotide species encodes at least one Rubisco Form I L subunit.

34. The polynucleotide of claim 27, wherein the plurality of parental polynucleotide species encodes at least one Rubisco Form I S subunit.